

## Several new Leafrollers for Bulgaria and the Balkan Peninsula

(Lepidoptera, Tortricidae)

by

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**Summary:** Information on 12 Tortricidae species new to the Bulgarian fauna is presented; five are recorded from the Balkan Peninsula for the first time. Figures of the moths and their genitalia are provided. Some distributional and behavioural features of these leaf-rollers is also presented.

**Zusammenfassung:** Es werden Daten von 12 Tortriciden, die neu für die bulgarischen Fauna sind, veröffentlicht. Fünf diesen Arten sind fünf überhaupt neu für die Fauna der ganzen Balkan-Halbinsel.

**Introduction:** Recent publications on the Bulgarian Tortricidae usually concern pests and their control, but the leaf-roller fauna have only been superficially investigated so the discovery of many new species within this family is to be expected. This paper presents data on 12 Tortricidae species new to the Bulgarian fauna.

During 2005-2007 I made many entomological expeditions to different parts of Bulgaria, mainly in the vicinity of Strouma River valley, so most of the material comes from this part of the country. Eleven of our species were collected there and only one in SE Bulgaria. The Strouma Valley region is one of the most interesting in Bulgaria regarding floral and faunal diversity due to the influence of its Mediterranean climate. A large diversity of habitats is present, but the plant communities are mainly typical Mediterranean xeromorphous colonies which are distributed throughout the region.

**Material and Methods:** The moths were gathered mostly by entomological net during their active flight-period, usually in the morning and the late afternoon. However, ultra violet fluorescent lamps were used at several sampling sites [160 W MBTF-bulb with electricity supplied by a generator, or a UV-tube (size F8T5) powered by a battery]. Material was collected periodically from five main localities in the region of the Strouma basin in SW Bulgaria:

1. Kresna Gorge, UTM: FM72, about 260 m alt. Dry stony habitats with evergreen Mediterranean forests of *Juniperus excelsa* BIEB. and communities of *Paliurus spina-christi* MILL., *Pistacia terebinthus* L., *Phyllirea latifolia* L., and *Colutea arborescens* L. etc. (Achilleo clypeolatae-Juniperetum excelsae association).
2. Vicinity of Ilindentsi Village, UTM: FM81, about 500 m alt. Mostly a dry limestone area with bush communities of *Juniperus oxycedrus* L. and *Paliurus spina-christi* MILL. Small marshy meadows with *Juncus* spp., although *Equisetum telmateja* EHRH. and other hygrophilous species were also present.
3. Communities of *Quercus coccifera* L. between Kamenitsa and Mikrevo Villages, UTM: FM81, about 260 m alt. In addition, *Quercus pubescens* WILLD., *Juniperus oxycedrus* L., *Pyrus amygdaliformis* VILL., and *Stipa capillata* L. etc. were also present.

4. Volcanic Hill of Kozhuh, UTM: FL89, 120 m average alt. A rocky hill of marble with bush communities of *Quercus pubescens* WILLD., *Paliurus spina-christi* MILL., *Carpinus orientalis* MILL., *Pistacia terebinthus* L., and *Juniperus oxycedrus* L. etc.

5. The vicinity of Klyuch Village, the northern foothills of Belasitsa Mt., UTM: FL78, about 450 m alt. Two main habitats are represented: humid forests (*Platanus orientalis* L. and *Castanea sativa* MILL.) and drier meadows with different herbaceous and bush species [mainly *Chamaecytisus absinthioides* (JANKA)].

The extracted genitalia were embedded in Euparal and stored in special plastic containers attached to the specimens. The systematic order of the species follows Razowski (2002, 2003). All materials are preserved in the collection of Sofia University, Faculty of Biology. New species for the Balkan Peninsula are marked by an asterisk (\*).

## Faunistical part

### Tortricinae

#### *Cochylimorpha cultana* LEDERER, 1855

Material examined. 2 ♀♀, SE Bulgaria, the outfall of Ropotamo River, UTM: NG68, 5 m alt., 7.VI.2005 at artificial light B. ZLATKOV & D. CHOBANOV leg.

Remarks. The lamp was situated near the sea, on the sand dunes. Recently reported from Romania (KOVÁCS & KOVÁCS, 2005), in the Danube delta. Widespread in western and southern Mediterranean, SW Russia and Central Asia.

#### *Aethes kasyi* RAZOWSKI, 1962

Material examined. 1 ♂, between the villages of Kamenitsa and Mikrevo, 200 m alt., 7.VII.2006, B. ZLATKOV leg.

Remarks. The specimen was collected in a community of *Q. coccifera*, flying above the grass. *Ae. kasyi* RAZ. occurs in Spain (Murria Beltrán, 2005), C Europe, Macedonia, Crimea and Iran (RAZOWSKI, 2002).

#### \* *Aethes confinis* RAZOWSKI, 1974 (colour plate 4: 1; genitalia fig. 1, 2)

Material examined. 1 ♀, between the villages of Kamenitsa and Mikrevo, 7.VII.2006; 2 ♂♂, 2 ♀♀, near Ilindentsi Vill., 400 m alt., 8.VII.2006; 2 ♀♀, Klyuch Vill., 460 m alt., 7.VIII.2006; 2 ♂♂ at light and 1 ♂ caught by net, 28.VII.2007, B. ZLATKOV leg.

Remarks. Probably widely distributed in S Bulgaria in grassy habitats, in one generation: VII–VIII. The moths fly in the evening above the grass. Known from Asia Minor, Crimea, Kazakhstan and S Siberia (RAZOWSKI, 2002).

#### *Cnephasia ecullyana* RÉAL, 1951

Material examined. 1 ♀, Kresna Gorge, 260 m alt., 5.VI.2006; 1 ♀, the same locality, 25.V.2007, S. Beshkov leg.; 3 ♂♂, 1 ♀, the same locality, 30.V.2007; 1 ♂, 1 ♀, Ilindentsi Vill., 4.VI.2006, 400 m alt.; 1 ♂, 1 ♀, the same locality, 2.VI.2007; 1 ♂, 1 ♀ between the villages of Kamenitsa and Mikrevo, 200 m alt., 3.VI.2006; 4 m, the same locality; 31.V.2007, 2 ♂♂, 4 ♀♀, volcanic hill of Kozhuh, 160 m alt., 2.VI.2006; 1 ♀, Klyuch Vill., 460 m alt., 6.VII.2006, B. ZLATKOV leg.

Remarks. Abundant in the investigated areas, and probably in many other parts of the country as well. During the day the moths rest on the branches of a range of different bushes - *P. amygdaliformis*, *P. spina-christi*, and occasionally *J. oxycedrus*. They are active in the late

afternoon. Our data indicate one generation yearly: V-VII. Distributed in S and C Europe. On the Balkan Peninsula known from Greece (RAZOWSKI, 2002).

***Cnephasia graecana* REBEL, 1902**

Material examined. 1 ♀, Kresna Gorge, 5.VI.2006; 3 ♀♀, the same locality, 30.V.2007; 3 ♂♂, Ilindentsi Vill., 4.VI.2006; 1 ♂, the same locality, 2.VI.2007; 2 m, between Kamenitsa and Mikrevo Villages, 3.VI.2006; 1 ♂, 1 ♀, volcanic hill of Kozhuh, 2.VI.2006; 1 ♂, the same place, 15.V.2007, B. ZLATKOV leg.

Remarks. Abundant in the investigated region. Usually the moths rest on the branches of *P. amygdaliformis*. They are active in the morning and in the evening. One generation yearly: V-VI. This species is known from Greece, Macedonia and Romania (RAZOWSKI, 2002).

**Olethreutinae**

***Bactra venosana* (Zeller, 1847)**

Material examined. 1 ♀, Ilindentsi Vill., 27.VIII.2007, B. ZLATKOV leg.

Remarks. The specimen was collected in a marshy meadow. Known from several countries in Europe, N Africa, Arabia, China, Taiwan, Japan, Sudan, India, Sri-Lanka, Thailand, Philippines, Java, Australia, Hawaii (RAZOWSKI, 2003).

**\* *Pelochrista mancipiana* (MANN, 1855) (colour plate 4: 2; genitalia fig. 3)**

Material examined. 1 ♂, Ilindentsi Vill., 30.VII.2007 at light, B. ZLATKOV leg.

Remarks. The specimen is damaged (see the colour illustration), so its genitalia were examined to enable an accurate identification. The species is known only from S Europe: France, Sardinia, Corsica, Italy (RAZOWSKI, 2003). Probably it has a North-Mediterranean type of distribution.

***Eucosma clarescens* V. I. KUZNETZOV, 1964**

Material examined. 1 ♂, Ilindentsi Vill., 8.VII.2006; 5 m at light and 1 ♀ by net, the same locality, 3.VII.2006, B. ZLATKOV leg.

Remarks. Hitherto I have found this species only in this dry limestone area. Distributed in Central and SE parts of Europe and Asia: Kazakhstan, Mongolia (RAZOWSKI, 2003).

**\* *Pammene oxycedrana* (MILLIÈRE, 1874) (colour plate, fig. 3, 4; genitalia fig. 4)**

Material examined. 2 ♂♂, 2 ♀♀, volcanic hill of Kozhuh, 8.VIII.2006, B. ZLATKOV leg.

Remarks. The moths were observed at about 18.00 h flying above shrubs of *J. oxycedrus* on a rocky limestone slope on the hill. Known from Italy, France (RAZOWSKI, 2003) and Crimea (BUDASHKIN, 2004).

***Pammene mariana* (ZERNY, 1920)**

Material examined. 1 ♀, Kresna Gorge, 31.VII.2007 at light B. ZLATKOV & O. SIVILOV leg.; 1 ♀, the same locality, 23.IX.2007, flying in the evening around *J. excelsa* trees, B. ZLATKOV leg.

Remarks. The moth is said to fly in V-VI (RAZOWSKI, 2003) but I found the first specimen two months later, so obviously the second specimen belongs to a partial second generation. Although this species is a serious pest in many places, I could see only a few damaged cones. Probably not so rare in Bulgaria, but it could be found in very limited areas in our country because of the local distribution of the food plant (*J. excelsa*). The species is known from Croatia, Turkey, Caucasus (RAZOWSKI, 2003) and Crimea (BUDASHKIN, 2004).

\* *Dichrorampha infuscata* (DANILEVSKY, 1960) (colour plate 4: 5, 6; genitalia fig. 5, 6)

Material examined. 1 ♀, Kresna Gorge, 24.IV.2007; 3 ♂♂, Klyuch Vill., 12.V.2006, B. ZLATKOV leg.

Remarks. The moths fly in the meadows in the evening. Probably one generation yearly: IV-V. Distributed in Italy, Crimea and Caucasus (RAZOWSKI, 2003).

\* *Dichrorampha obscuratana* (WOLFF, 1955) (colour plate 4: 7, 8; genitalia fig. 7, 8)

Material examined. 1 ♂, Klyuch Vill., 12.V.2006; 1 ♂, the same locality, 15.V.2007; 1 ♀, the same locality, 2.VI.2007.

Remarks. The moths are active during the day and in the evening. They inhabit humid shady habitats. One generation: V-VI. Known from N and C Europe, European Russia, Ukraine, W Siberia (RAZOWSKI, 2003).

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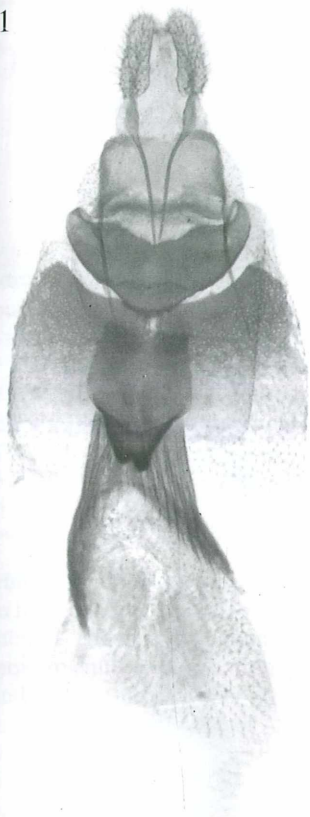
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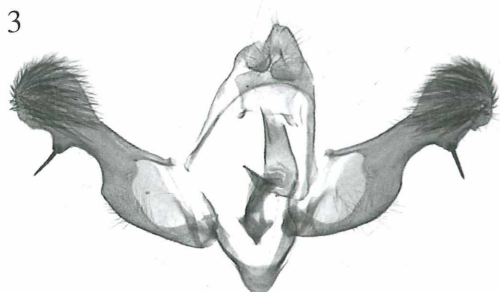
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Fig. 1-2: *Aethes confinis* RAZOWSKI, 1974: 1, ♀, Klyuch Vill., 7.VIII.2006; 2, ♂, Ilindentsi Vill., 8.VII.2006.

Fig. 3: *Pelochrista mancipiana* (MANN, 1855), ♂, Ilindentsi Vill., 30.VII.2007, at light.

Fig. 4: *Pammene oxycedrana* (MILLIÈRE, 1874), ♂, volcanic hill of Kozhuh, 8.VIII.2006.

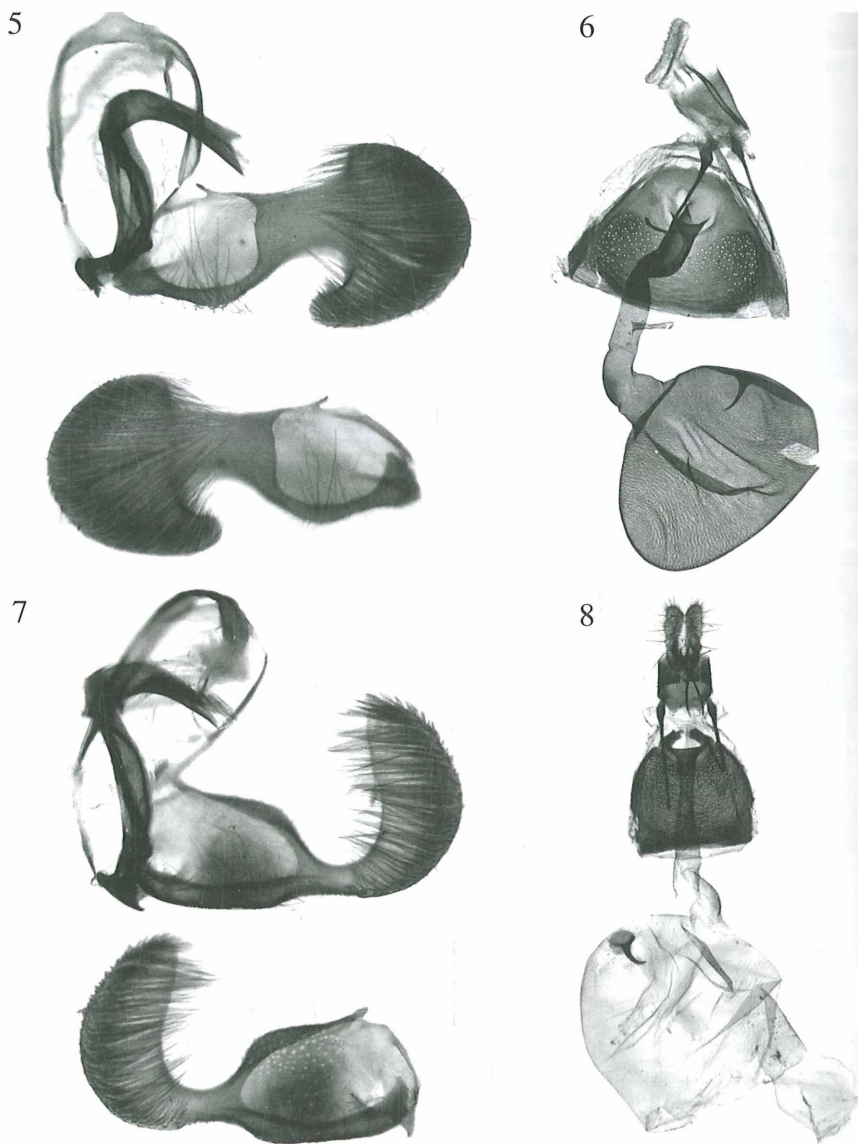


Fig. 5, 6: *Dichrorampha infuscata* (DANILEVSKY, 1960). 5: ♂, Klyuch Vill., 12.V.2006; 6: ♀, Kresna Gorge, 24.IV.2007.

Fig. 7, 8: *Dichrorampha obscuratana* (Wolff, 1955). 7: ♂, Klyuch Vill., 15.V.2007; 8: ♀, the Klyuch Vill., 2.VI.2006.

## Farbtafel 4

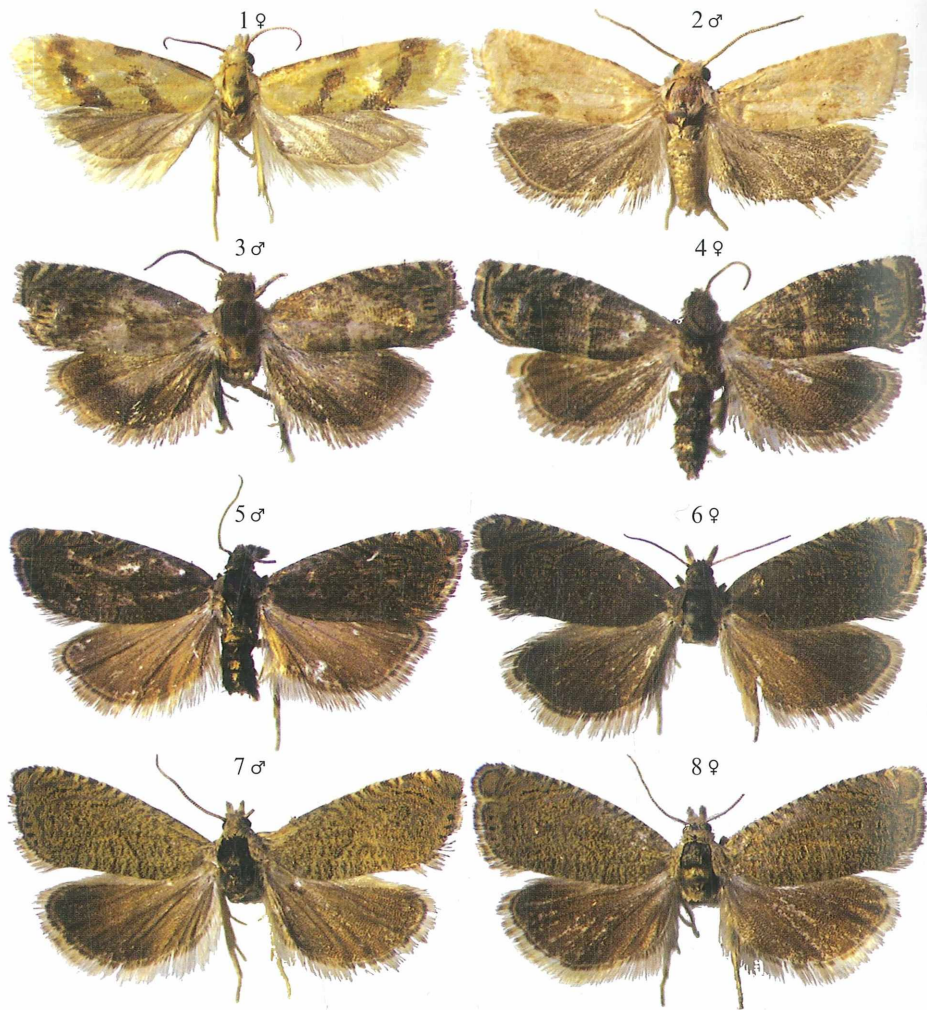


Fig. 1: *Aethes confinis* RAZOWSKI, 1974, Klyuch Vill., 7.VIII.2006.

Fig. 2: *Pelochrista mancipiana* (MANN, 1855), Ilindentsi Vill., 30.VII.2007, at light.

Fig. 3-4: *Pammene oxycedrana* (MILLIÈRE, 1874), volcanic hill of Kozhuh, 8.VIII.2006.

Fig. 5-6: *Dichrorampha infusata* (DANILEVSKY, 1960). 5: Klyuch Vill., 12.V.2006; 6: Kresna Gorge, 24.IV.2007.

Fig. 7-8: *Dichrorampha obscuratana* (WOLFF, 1955). 7: Klyuch Vill., 15.V.2007; 8: Kresna Gorge, 2.VI.2006.